

Claims

1. A sensor comprising:  
a sensing element for sensing a sensor characteristic;  
memory for storing data relevant to the sensor;  
output circuitry for outputting the sensor characteristic and the stored data in an output signal; and  
a controller for controlling the outputting of the sensor characteristic and stored data, said controller transmitting the stored data in the output signal according to a first data communication protocol and transmitting the sensor characteristic in the output signal according to a second data communication protocol.
2. The sensor as defined in claim 1, wherein the stored data is transmitted in the first data communication protocol following a power reset.
3. The sensor as defined in claim 2, wherein the stored data is transmitted during a predetermined time period.
4. The sensor as defined in claim 1, wherein the stored data comprises calibration data.
5. The sensor as defined in claim 1, wherein said sensor further comprises temperature sensing circuitry for sensing a temperature characteristic, wherein the sensor characteristic and temperature characteristic are transmitted in the output signal according to the second data communication protocol as a pulse width modulated output signal containing an indication of the sensor characteristic, wherein one of the sensor and temperature characteristics is transmitted as a function of pulse width of the pulse width modulated output signal, and the other of the sensor and

temperature characteristics is transmitted as a function of frequency of the pulse width modulated output signal.

6. The sensor as defined in claim 5, wherein the one of the sensor and temperature characteristics is transmitted as a function of duty cycle of the pulse width modulated signal.

7. The sensor as defined in claim 1, wherein the sensing element comprises a pressure sensor.

8. The sensor as defined in claim 7, wherein the pressure sensor is coupled to a fluid-filled bladder for sensing an occupant in a vehicle.

9. A sensor as defined in claim 1, wherein the output signal according to the first data communication protocol includes a constant frequency signal.

10. A method of transmitting sensor generated output data and stored data in an output signal according to first and second data communication protocols, said method comprising the steps of:

sensing a sensor characteristic with a sensor;

storing data in the sensor;

generating an output signal;

transmitting the stored data in the output signal according to a first data communication protocol; and

transmitting the sensor characteristic in the output signal according to a second data communication protocol.

11. The method as defined in claim 10 further comprising the step of detecting a power reset, wherein the stored data is transmit

following a power reset, and the sensor characteristic is transmit following transmission of the stored data.

12. The method as defined in claim 10, wherein the sensor characteristic is transmitted following a predetermined time.

13. The method as defined in claim 10 further comprising the step of sensing a temperature characteristic, wherein the sensor and temperature characteristics are transmitted in a pulse width modulated output signal containing the sensor characteristic as a function of pulse width of the pulse width modulated output signal and the temperature characteristic as a function of the frequency of the pulse width modulated output signal.

14. The method as defined in claim 10, wherein the first data communication protocol comprises a constant frequency, and the second data communication protocol comprises a variable frequency.

15. The method as defined in claim 14, wherein the frequency of the second data communication protocol varies as a function of temperature.

16. The method as defined in claim 10 further comprising the step of transmitting the stored and sensor data to a control device for use in a vehicle.

17. The method as defined in claim 16 further comprising the step of processing the stored and sensor data to detect presence of an occupant in the vehicle.

18. The method as defined in claim 10, wherein the step of storing data in the sensor comprises storing calibration data relevant to the sensor.